

**3R - 131**

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**ANNUAL  
MONITORING  
REPORT**

**03/07/2008**



March 7, 2008

Mr. Glenn von Gonten  
Hydrologist-Groundwater Remediation  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

RE: Annual Groundwater Remediation Reports

Dear Mr. von Gonten,

XTO Energy Inc. (XTO) is submitting the Annual Groundwater Remediation Reports in accordance with the NMOCD approved Groundwater Management Plan (GMP). Enclosed are summary reports with analytical data, summary tables, site maps, potentiometric surface diagrams and recommendations/proposed actions for:

- Bruington Gas Com #1- 3RP106
- Carson Gas Com #1E
- EJ Johnson C #1E- 3RP385
- Federal Gas Com #H1 3R 110
- Frost, Jack B #2
- McCoy GC D #1E
- OH Randel #7- 3RP386
- PO Pipken #3E 3R 409
- Rowland Gas Com #1- 3RP124
- Snyder Gas Com #1A- 3RP126
- ✓ • Sullivan Gas Com D #1- 3RP131
- Valdez A #1E- 3RP134

We have also enclosed an Annual Report for ten sites that meet the closure requirements outlined in the GMP. XTO respectfully requests closure of:

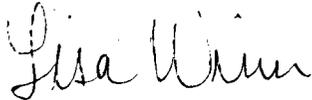
- Baca Gas Com A #1A- 3RP104
- Garcia Gas Com B #1- 3RP111
- Haney Gas Com B #1E- 3RP113
- Hare Gas Com B #1
- Hare Gas Com B #1E- 3RP384
- Hare Gas Com I #1
- Masden Gas Com #1E- 3RP120
- McDaniel Gas Com B #1E- 3RP121
- Stedje Gas Com #1- 3RP128
- Sullivan Frame A #1E- 3RP130

In previously submitted reports five sites met the closure requirements outlined in the GMP and XTO requested closure on those sites in 2006 and 2007. The reports for the below listed sites are being submitted again for your review.

- Abrams J #1- 3RP100
- Armenta Gas Com C #1E- 3RP394
- Bergin Gas Com #1E- 3RP105
- Romero Gas Com A #1- 3RP123
- State Gas Com BS #1- 3RP127

Thank you for your review of the reports. XTO looks forward to hearing from you regarding closure requests and proposed remediation actions. If you have any questions please do not hesitate to contact me at (505) 333-3100.

Respectfully,



Lisa Winn  
EH & S Manager  
San Juan Division

cc: Mr. Brandon Powell, Environmental, NMOCD District III Office, Aztec, NM  
Mr. Martin Nee, Lodestar Services Inc.  
File- San Juan Groundwater

3R131

**XTO ENERGY INC.**

**ANNUAL GROUNDWATER REPORT**

**2007**

**SULLIVAN GAS COM D #1  
(B) SECTION 26 – T29N – R11W, NMPM  
SAN JUAN COUNTY, NEW MEXICO**

**PREPARED FOR:  
MR. GLENN VON GONTEN  
NEW MEXICO OIL CONSERVATION DIVISION**

**January 2008**

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Table 2:	General Water Chemistry Laboratory Results
Figure 1:	Site Map
Figures 2-4:	Potentiometric Surface Diagrams
Figures 5-7:	Geologic Logs and Well Completion Diagrams
Attachment 1:	2007 Laboratory Reports

# 2007 XTO GROUNDWATER REPORT

## SULLIVAN GAS COM D #1

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### SITE DETAILS

LEGALS - TWN: 29N  
LAND TYPE: FEE

RNG: 11W

SEC: 26

UNIT: B

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### PREVIOUS ACTIVITIES

Excavation: June-94

Monitoring Wells: Jun-96

Quarterly Sampling Initiated: Nov-99

### SITE MAP

A site map is presented as Figure 1.

### SUMMARY TABLES

A summary of laboratory results from historical and current groundwater monitoring is presented as Table 1. A summary of General Water Quality from 1999 and 2000 is presented as Table 2. Copies of the laboratory data sheets and associated quality assurance/quality control data from 2007 are presented as Attachment 1.

### POTENTIOMETRIC SURFACE DIAGRAMS

Field data collected during site monitoring activities indicate a groundwater gradient that trends toward the northwest. Figures 2 - 4 illustrate the estimated groundwater gradients for 2007.

### ANNUAL GROUNDWATER REMEDIATION REPORTS

The 2005 annual groundwater report was submitted to New Mexico Oil Conservation Division (NMOCD) in January 2006, proposing semi-annual sampling of monitoring well MW-1R in 2006 and possible application of an oxidizer.

The 2006 annual groundwater report was submitted to NMOCD in February 2007, proposing continued semi-annual sampling of monitoring well MW-1R until benzene, toluene, ethyl benzene and total xylenes (BTEX) concentrations are below New Mexico Water Quality Control Commission (NMWQCC) closure standards.

### 2007 ACTIVITIES

Semi-annual groundwater samples were collected from MW-1R in June 2007. A review of the results indicated natural degradation of hydrocarbons so sampling was increased to quarterly.

### GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

Bore/Test Hole Reports are presented as Figures 5 - 7 representing drilling that occurred on site in May 2000.

### DISPOSITION OF GENERATED WASTES

Waste generated (groundwater) during monitoring well sampling and development was placed in the produced water tank located on the well site.

## 2007 XTO GROUNDWATER REPORT

### **CONCLUSIONS**

January 1998 XTO Energy Inc. (XTO) acquired the Sullivan Gas Com D #1 from Amoco Production Company. XTO understands that evidence of groundwater impact was discovered during remedial work to close blow and separator pits. In 1996 monitoring wells were installed to evaluate residual water quality. Monitoring well sampling indicated limited hydrocarbon impact that appeared to be in the area of MW-1R. Natural attenuation appeared to be successful, resulting in decreased hydrocarbon levels since June 2000.

XTO had proposed continuing semi-annual groundwater samples in the 2006 annual groundwater report until BTEX concentrations are below NMWQCC closure standards. A groundwater sample from MW-1R was submitted for analysis in June 2007. The results indicated no detectable levels of BTEX constituents above the laboratory equipment detection limits (0.2 ug/L). XTO reconsidered the application of an oxidizer in groundwater based on strong evidence that natural attenuation was occurring on its own. The monitoring well was then sampled quarterly for the remainder of 2007. XTO recommends continued quarterly sampling of MW-1R for BTEX during the first quarter of 2008 or until results show hydrocarbon constituents are below NMWQCC standards.

### **RECOMMENDATIONS**

- Quarterly samplings until analytical results show hydrocarbon constituents are below New Mexico groundwater standards for four (4) consecutive quarters.
- Following OCD approval for closure, all monitoring well locations will be abandoned in accordance with the monitoring well abandonment plan.

TABLE 1

## XTO ENERGY INC. GROUNDWATER LAB RESULTS

SULLIVAN GC D #1- BLOW & SEP. PITS UNIT B, SEC. 26, T29N, R11W
--

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Benzene	Toluene	Ethyl Benzene	Total Xylene
10-Jun-96	MW #1	7.69	10.00		298	90.6	29.8	417.5
27-Jun-97		7.81	10.00		675	208	342	645
12-Jun-98		7.31	10.00		131	8.8	0.4	8.6
27-May-99		6.79			345	17.9	13.1	87.3
29-Jun-00	MW #1R	7.85	15.00		570	76	51	303
16-May-01		7.31			180	1	3.5	52.9
27-Jun-02		7.78			67	ND	4.8	9.1
27-Jun-03		7.96			280	ND	10	16
16-Jun-04		7.73			400	ND	6.8	12
28-Jun-05		8.71			130	ND	7.4	6.4
28-Jun-06		8	15.02		130	ND	21	ND
05-Dec-06		7.4	15.02		ND	ND	ND	ND
12-Jun-07		7.54	15.02		2	ND	ND	ND
25-Sep-07		8.48	15.02		ND	ND	ND	ND
20-Dec-07		7.88	15.02		ND	ND	ND	ND
10-Jun-96	MW #2	7.85	10.00		ND	ND	ND	ND
01-Jun-99		6.44			NA	NA	NA	NA
28-Jun-06					MONITORING WELL MISSING			
10-Jun-96	MW #3	8.48	10.00		ND	13	ND	2.52
26-May-99		6.57			NA	NA	NA	NA
28-Jun-06		7.7	10.00		NO RECOVERY			
10-Jun-96	MW #4	8.04	10.00		ND	ND	ND	9.24
26-May-99		6.97			NA	NA	NA	NA
29-Jun-00	MW #5	8.39	15.00		6.1	1.1	3.2	22.2
30-Aug-00		9.14			ND	0.6	1.5	1.8
05-Dec-00		8.28			ND	ND	ND	ND
03-Mar-01		7.48			ND	ND	ND	ND
28-Jun-06		8.45	15.00		NO RECOVERY			
<b>NMWQCC GROUNDWATER STANDARDS</b>					10	750	750	620

TABLE 2

## XTO ENERGY INC. GROUNDWATER LAB RESULTS

SULLIVAN GC D #1- BLOW & SEP. PITS UNIT B, SEC. 26, T29N, R11W
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Sample Date: May 26, 1999  
June 29, 2000

PARAMETERS	MW #1R 05/26/99	MW #2 05/26/99	MW #3 05/26/99	MW #4 05/26/99	MW #5 06/29/00	UNITS
LAB Ph	7.6	7.41	7.16	7.4	7.29	s.u.
LAB CONDUCTIVITY @ 25 C	19,600	59,200	12,650	12,660	12,060	umhos/cm
TOTAL DISSOLVED SOLIDS @ 180 C	9,800	23,200	6,300	6,320	6,010	mg/L
TOTAL DISSOLVED SOLIDS (Calc)	9,764	22,121	6,285	6,230	5,970	mg/L
SODIUM ABSORPTION RATIO	26.2	73.9	21.7	23.6	15.9	ratio
TOTAL ALKALINITY AS CaCO3	1,484	485	444	592	422	mg/L
TOTAL HARDNESS AS CaCO3	1,720	1,495	1,040	904	1,400	mg/L
BICARBONATE AS HCO3	1,484	485	444	592	422	mg/L
CARBONATE AS CO3	< 1	< 1	< 1	< 1	< 0.1	mg/L
HYDROXIDE AS OH	< 1	< 1	< 1	< 1	< 0.1	mg/L
NITRATE NITROGEN	2.2	0.6	0.7	0.3	1.1	mg/L
NITRITE NITROGEN	0.001	0.058	0.036	0.013	0.035	mg/L
CHLORIDE	88	170	68	120	23.4	mg/L
FLUORIDE	1.42	1.79	1.23	1.24	2.64	mg/L
PHOSPHATE	23	2	0.5	2.5	1.6	mg/L
SULFATE	5,600	14,550	3,930	3,720	3,850	mg/L
IRON	0.21	0.307	0.037	0.089	1.16	mg/L
CALCIUM	464	408	350	272	306	mg/L
MAGNESIUM	137	116	40	54.7	155	mg/L
POTASSIUM	52.5	8.0	15.0	70.0	3.4	mg/L
SODIUM	2,495	6,570	1,610	1,630	1,370	mg/L
CATION/ANION DIFFERENCE	0.05	0.02	0.07	0.09	0.27	%



MW-1

METER RUN

WELL HEAD

MW-2 REMOVED

ACCESS ROAD

BERM

PROD TANKS

COMP

MW-4

MW-3 REMOVED

MW-6

MW-5 REMOVED

MW-7

FENCE

Approximately 1000'  
to San Juan River  
(WSW flow direction)

MW-8 REMOVED

MW-9 REMOVED

MW-10 REMOVED

MONITORING WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

1 INCH = 62.5 FEET

0 62.5 125 FT.

Lodestar Services, Inc  
PO Box 3861  
Farmington, NM 87499

VALDEZ A #1E  
SW/4 NE/4 SEC. 24, T29N, R11W  
SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER  
DRAWN BY: ALA  
REVISED: 01/30/08

SITE MAP  
06/28/2006  
FIGURE 1



MW-1

METER RUN

WELL HEAD

MW-2 REMOVED

ACCESS ROAD

BERM

PROD TANKS

COMP

MW-4

MW-3 REMOVED

MW-6

TOC = 101.09  
GWEL = 92.31

MW-5 REMOVED

MW-7

TOC = 99.59  
GWEL = 86.22

MW-8 REMOVED

MW-9 REMOVED

MW-10 REMOVED

Approximately 1000' to  
San Juan River  
(WSW flow direction)

FLOW = 0.084

FENCE

FENCE

MONITORING WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

1 INCH = 62.5 FEET

0 62.5 125 FT.

TOC = TOP OF CASING ELEVATION  
GWEL = GROUNDWATER ELEVATION  
--- = INFERRED GROUNDWATER CONTOUR LINE

Lodestar Services, Inc  
PO Box 3861  
Farmington, NM 87499

VALDEZ A #1E  
SW/4 NE/4 SEC. 24, T29N, R11W  
SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER  
DRAWN BY: ALA  
REVISED: 12/01/06

GROUNDWATER GRADIENT  
MAP  
FIGURE 2  
06/28/2006



METER RUN

90



MW-1  
TOC = 102.56  
GWEL = 90.49

89

WELL HEAD



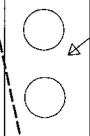
MW-2 REMOVED

88

ACCESS ROAD

BERM

87



PROD TANKS

COMP

FLOW = 0.10

MW-3  
TOC = 101.06  
GWEL = 88.53

MW-4 REMOVED

MW-6

TOC = 97.09  
GWEL = 88.04

MW-5 REMOVED

MW-7  
TOC = 99.59  
GWEL = 86.01

FENCE

86

FENCE

Approximately 1000' to  
San Juan River  
(WSW flow direction)

FLOW = 0.15

MW-8 REMOVED

MW-9 REMOVED

MW-10 REMOVED

MONITORING WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

TOC = TOP OF CASING ELEVATION  
GWEL = GROUNDWATER ELEVATION  
--- = INFERRED GROUNDWATER CONTOUR LINE

1 INCH = 62.5 FEET

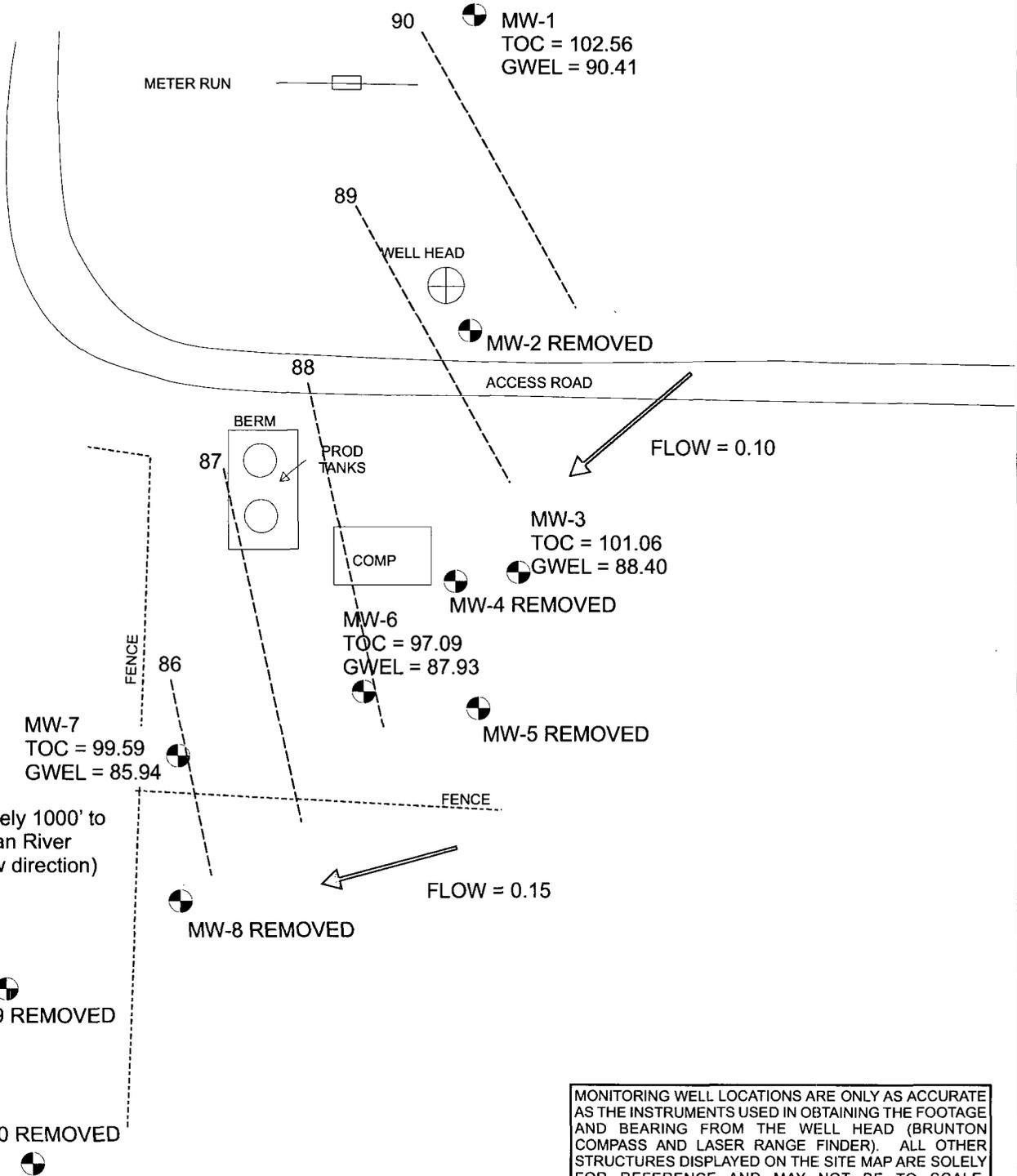
0 62.5 125 FT.

Lodestar Services, Inc  
PO Box 3861  
Farmington, NM 87499

VALDEZ A #1E  
SW/4 NE/4 SEC. 24, T29N, R11W  
SAN JUAN COUNTY, NEW MEXICO

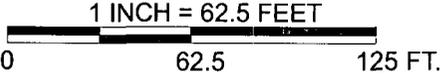
PROJECT: XTO GROUND WATER  
DRAWN BY: ALA  
REVISED: 07/25/07

GROUNDWATER GRADIENT  
MAP  
07/23/2007  
FIGURE 3



MONITORING WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

TOC = TOP OF CASING ELEVATION  
 GWEL = GROUNDWATER ELEVATION  
 - - - = INFERRED GROUNDWATER CONTOUR LINE



Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	VALDEZ A #1E SW/4 NE/4 SEC. 24, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO GROUND WATER DRAWN BY: ALA REVISED: 12/23/07	GROUNDWATER GRADIENT MAP 12/20/2007 FIGURE 4
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FIGURE 5

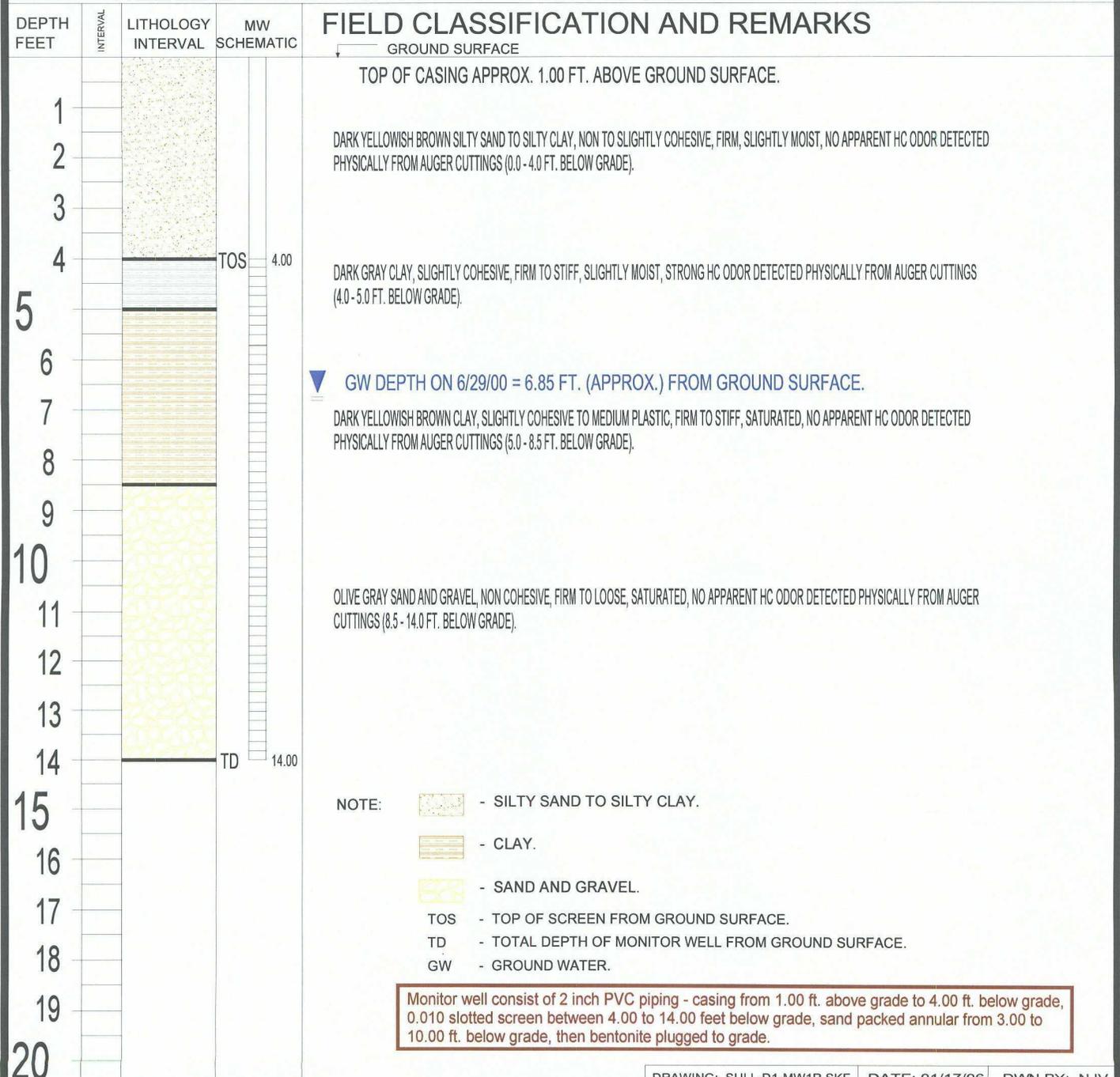
# BLAGG ENGINEERING, INC.

P.O. BOX 87  
BLOOMFIELD, NM 87413  
(505) 632-1199

## BORE / TEST HOLE REPORT

BORING #.....	BH - 7
MW #.....	1R
PAGE #.....	1
DATE STARTED	5/03/00
DATE FINISHED	5/03/00
OPERATOR.....	DE
PREPARED BY	NJV

CLIENT:	<u>XTO ENERGY INC.</u>
LOCATION NAME:	<u>SULLIVAN GC D # 1 - BLOW PIT, UNIT B, SEC. 26, T29N, R11W</u>
CONTRACTOR:	<u>BLAGG ENGINEERING, INC. / ENVIROTECH, INC.</u>
EQUIPMENT USED:	<u>MOBILE DRILL RIG (CME 61)</u>
BORING LOCATION:	<u>159 FT., N70W FROM WELL HEAD.</u>



- NOTE:
- SILTY SAND TO SILTY CLAY.
  - CLAY.
  - SAND AND GRAVEL.
  - TOS - TOP OF SCREEN FROM GROUND SURFACE.
  - TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
  - GW - GROUND WATER.

Monitor well consist of 2 inch PVC piping - casing from 1.00 ft. above grade to 4.00 ft. below grade, 0.010 slotted screen between 4.00 to 14.00 feet below grade, sand packed annular from 3.00 to 10.00 ft. below grade, then bentonite plugged to grade.

FIGURE 6

# BLAGG ENGINEERING, INC.

P.O. BOX 87  
BLOOMFIELD, NM 87413  
(505) 632-1199

## BORE / TEST HOLE REPORT

BORING #.....	BH - 5
MW #.....	2R
PAGE #.....	2
DATE STARTED	5/03/00
DATE FINISHED	5/03/00
OPERATOR.....	DE
PREPARED BY	NJV

CLIENT:	<b>XTO ENERGY INC.</b>
LOCATION NAME:	SULLIVAN GC D # 1 - BLOW PIT, UNIT B, SEC. 26, T29N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 61)
BORING LOCATION:	66 FT., N40E FROM WELL HEAD.

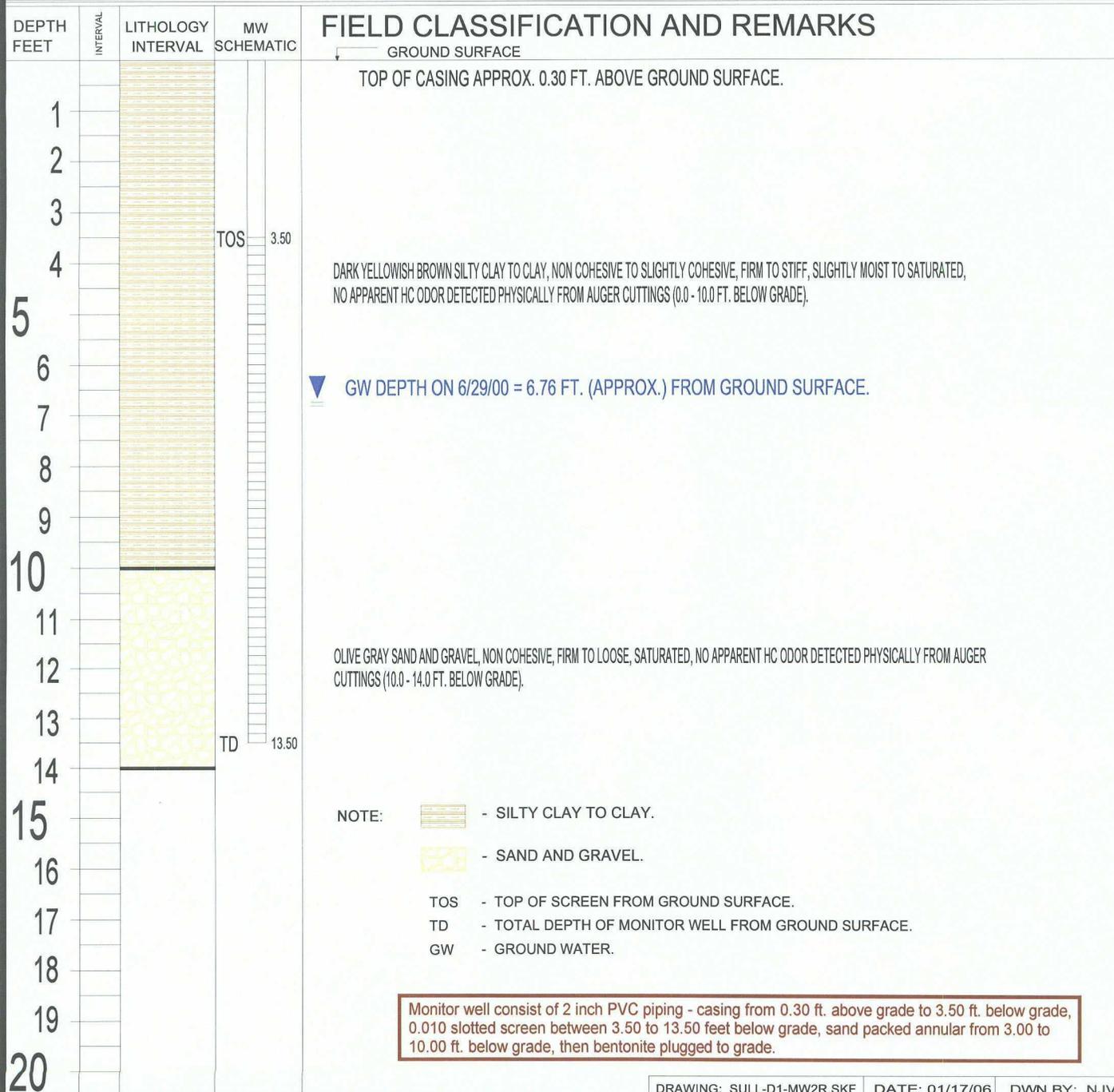


FIGURE 7

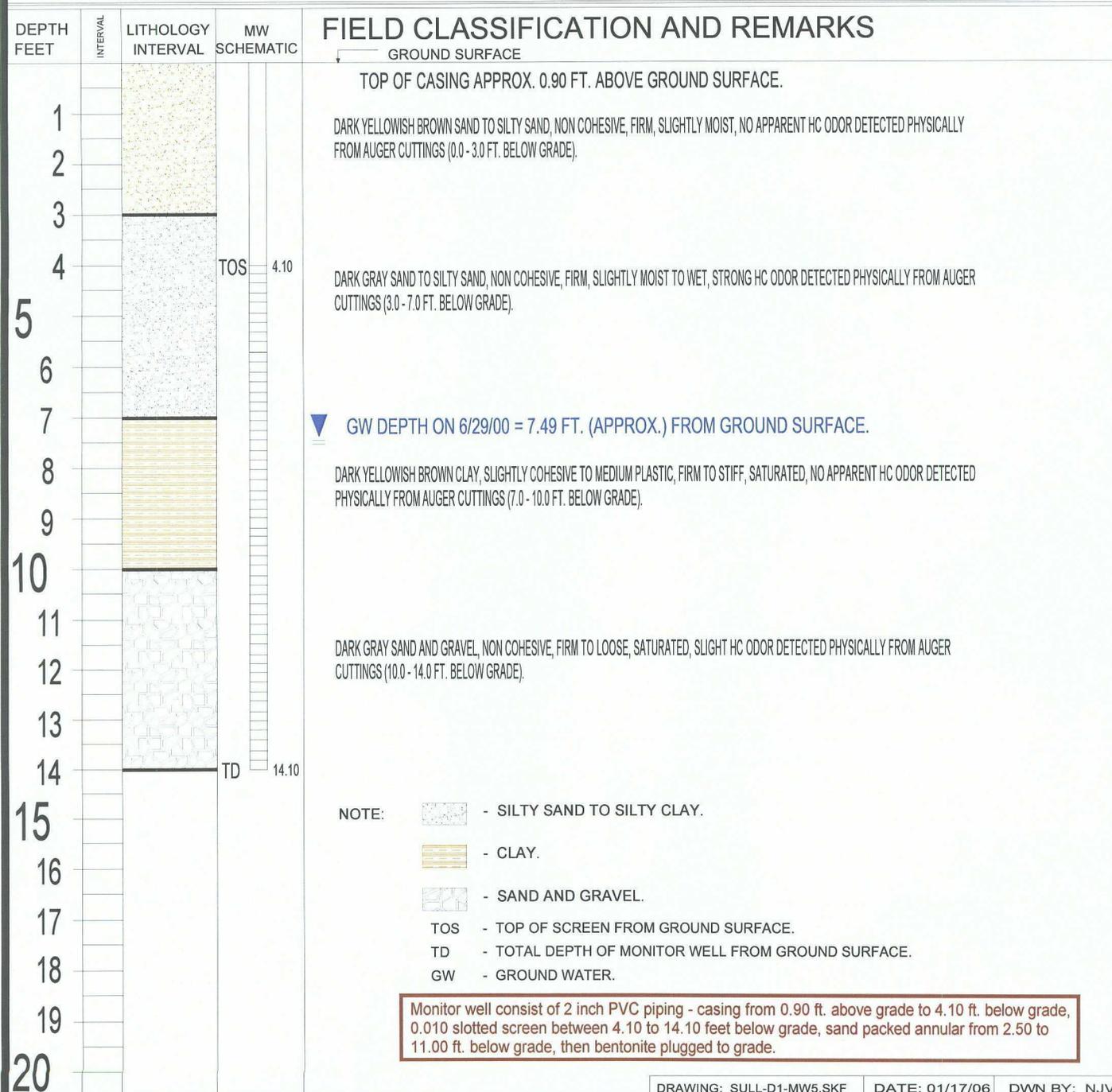
# BLAGG ENGINEERING, INC.

P.O. BOX 87  
BLOOMFIELD, NM 87413  
(505) 632-1199

## BORE / TEST HOLE REPORT

BORING #.....	BH - 6
MW #.....	5
PAGE #.....	3
DATE STARTED	5/03/00
DATE FINISHED	5/03/00
OPERATOR.....	DE
PREPARED BY	NJV

CLIENT:	<u>XTO ENERGY INC.</u>
LOCATION NAME:	<u>SULLIVAN GC D # 1 - BLOW PIT, UNIT B, SEC. 26, T29N, R11W</u>
CONTRACTOR:	<u>BLAGG ENGINEERING, INC. / ENVIROTECH, INC.</u>
EQUIPMENT USED:	<u>MOBILE DRILL RIG (CME 61)</u>
BORING LOCATION:	<u>187 FT., N50W FROM WELL HEAD.</u>



Hall Environmental Analysis Laboratory, Inc.

Date: 21-Jun-07

CLIENT: XTO Energy  
Project: Ground Water

Lab Order: 0706237

Lab ID: 0706237-10

Collection Date: 6/13/2007 10:35:00 AM

Client Sample ID: Sullivan GCDI MW-1R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	2.0	1.0		µg/L	1	6/19/2007 7:43:22 PM
Toluene	ND	1.0		µg/L	1	6/19/2007 7:43:22 PM
Ethylbenzene	ND	1.0		µg/L	1	6/19/2007 7:43:22 PM
Xylenes, Total	ND	2.0		µg/L	1	6/19/2007 7:43:22 PM
Surr: 4-Bromofluorobenzene	85.4	70.2-105		%REC	1	6/19/2007 7:43:22 PM

Lab ID: 0706237-11

Collection Date:

Client Sample ID: Trip Blank

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	1.0		µg/L	1	6/19/2007 8:13:27 PM
Toluene	ND	1.0		µg/L	1	6/19/2007 8:13:27 PM
Ethylbenzene	ND	1.0		µg/L	1	6/19/2007 8:13:27 PM
Xylenes, Total	ND	2.0		µg/L	1	6/19/2007 8:13:27 PM
Surr: 4-Bromofluorobenzene	83.8	70.2-105		%REC	1	6/19/2007 8:13:27 PM

Lab ID: 0706237-12

Collection Date: 6/13/2007 11:53:00 AM

Client Sample ID: ~~Burlington GCDI MW-1R~~

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	1.0		µg/L	1	6/15/2007 9:12:53 PM
Toluene	ND	1.0		µg/L	1	6/15/2007 9:12:53 PM
Ethylbenzene	ND	1.0		µg/L	1	6/15/2007 9:12:53 PM
Xylenes, Total	ND	2.0		µg/L	1	6/15/2007 9:12:53 PM
Surr: 4-Bromofluorobenzene	94.3	70.2-105		%REC	1	6/15/2007 9:12:53 PM

Qualifiers:  
 \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

## QA/QC SUMMARY REPORT

Client: XTO Energy  
Project: Ground Water

Work Order: 0706237

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 0706237-12A MSD		MSD			Batch ID: R24017		Analysis Date: 6/18/2007 12:21:32 PM		
Benzene	18.72	µg/L	1.0	93.6	85.9	113	4.52	27	
Toluene	18.79	µg/L	1.0	94.0	86.4	113	4.64	19	
Ethylbenzene	18.60	µg/L	1.0	93.0	83.5	118	4.77	10	
Xylenes, Total	55.68	µg/L	2.0	92.8	83.4	122	3.58	13	
Sample ID: 0706237-25A MSD		MSD			Batch ID: R24049		Analysis Date: 6/20/2007 9:23:49 PM		
Benzene	19.29	µg/L	1.0	96.5	85.9	113	2.88	27	
Toluene	18.77	µg/L	1.0	93.9	86.4	113	2.82	19	
Ethylbenzene	18.77	µg/L	1.0	93.8	83.5	118	2.60	10	
Xylenes, Total	54.62	µg/L	2.0	91.0	83.4	122	2.24	13	
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R24013		Analysis Date: 6/15/2007 8:56:45 AM		
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R24017		Analysis Date: 6/18/2007 10:56:56 AM		
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R24036		Analysis Date: 6/19/2007 9:56:41 AM		
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R24049		Analysis Date: 6/20/2007 10:05:12 AM		
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R24013		Analysis Date: 6/15/2007 11:42:55 PM		
Benzene	19.24	µg/L	1.0	96.2	85.9	113			
Toluene	18.67	µg/L	1.0	93.4	86.4	113			
Ethylbenzene	18.36	µg/L	1.0	91.8	83.5	118			
Xylenes, Total	54.32	µg/L	2.0	90.5	83.4	122			
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R24017		Analysis Date: 6/18/2007 12:51:39 PM		
Benzene	18.99	µg/L	1.0	94.9	85.9	113			
Toluene	19.05	µg/L	1.0	95.3	86.4	113			
Ethylbenzene	18.69	µg/L	1.0	93.4	83.5	118			
Xylenes, Total	56.17	µg/L	2.0	93.6	83.4	122			
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R24036		Analysis Date: 6/19/2007 11:27:18 AM		
Benzene	19.95	µg/L	1.0	99.7	85.9	113			
Toluene	20.29	µg/L	1.0	101	86.4	113			

## Qualifiers:

E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: XTO Energy  
 Project: Ground Water

Work Order: 0706237

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8021

Sample ID: 100NG BTEX LCS		LCS						Batch ID: R24036	Analysis Date: 6/19/2007 1127:18 AM
Ethylbenzene	20.10	µg/L	1.0	101	83.5	118			
Xylenes, Total	59.83	µg/L	2.0	99.7	83.4	122			
Sample ID: 100NG BTEX LCS		LCS						Batch ID: R24049	Analysis Date: 6/20/2007 954:18 PM
Benzene	18.97	µg/L	1.0	94.9	85.9	113			
Toluene	18.46	µg/L	1.0	92.3	86.4	113			
Ethylbenzene	18.62	µg/L	1.0	93.1	83.5	118			
Xylenes, Total	54.86	µg/L	2.0	91.4	83.4	122			
Sample ID: 0706237-12A MS		MS						Batch ID: R24017	Analysis Date: 6/18/2007 1151:22 AM
Benzene	19.59	µg/L	1.0	98.0	85.9	113			
Toluene	19.68	µg/L	1.0	98.4	86.4	113			
Ethylbenzene	19.51	µg/L	1.0	97.5	83.5	118			
Xylenes, Total	57.71	µg/L	2.0	96.2	83.4	122			
Sample ID: 0706237-25A MS		MS						Batch ID: R24049	Analysis Date: 6/20/2007 853:24 PM
Benzene	18.74	µg/L	1.0	93.7	85.9	113			
Toluene	18.25	µg/L	1.0	91.2	86.4	113			
Ethylbenzene	18.29	µg/L	1.0	91.4	83.5	118			
Xylenes, Total	53.41	µg/L	2.0	89.0	83.4	122			

Qualifiers:

- |   |  |    |  |
|---|--|----|--|
| E | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| R | RPD outside accepted recovery limits       | S  | Spike recovery outside accepted recovery limits    |

**Hall Environmental Analysis Laboratory, Inc.**

Date: 08-Oct-07

<b>CLIENT:</b> XTO Energy	<b>Client Sample ID:</b> Sullivan GCD1 MW-1R
<b>Lab Order:</b> 0709406	<b>Collection Date:</b> 9/25/2007 2:30:00 PM
<b>Project:</b> Ground Water	<b>Date Received:</b> 9/28/2007
<b>Lab ID:</b> 0709406-10	<b>Matrix:</b> AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	1.0		µg/L	1	10/2/2007 11:45:24 PM
Toluene	ND	1.0		µg/L	1	10/2/2007 11:45:24 PM
Ethylbenzene	ND	1.0		µg/L	1	10/2/2007 11:45:24 PM
Xylenes, Total	ND	2.0		µg/L	1	10/2/2007 11:45:24 PM
Surr: 4-Bromofluorobenzene	83.5	70.2-105		%REC	1	10/2/2007 11:45:24 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit \*
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 08-Oct-07

**CLIENT:** XTO Energy  
**Lab Order:** 0709406  
**Project:** Ground Water  
**Lab ID:** 0709406-28

**Client Sample ID:** Trip Blank  
**Collection Date:**  
**Date Received:** 9/28/2007  
**Matrix:** TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	1.0		µg/L	1	10/3/2007 11:35:56 PM
Toluene	ND	1.0		µg/L	1	10/3/2007 11:35:56 PM
Ethylbenzene	ND	1.0		µg/L	1	10/3/2007 11:35:56 PM
Xylenes, Total	ND	2.0		µg/L	1	10/3/2007 11:35:56 PM
Surr: 4-Bromofluorobenzene	82.7	70.2-105		%REC	1	10/3/2007 11:35:56 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

QA/QC SUMMARY REPORT

Client: XTO Energy  
 Project: Ground Water

Work Order: 0709406

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8021

Sample ID: 0709406-01A MSD *MSD* Batch ID: R25409 Analysis Date: 10/3/2007 3:45:13 AM

Benzene	20.98	µg/L	1.0	105	85.9	113	0.580	27
Toluene	19.97	µg/L	1.0	99.6	86.4	113	0.764	19
Ethylbenzene	19.95	µg/L	1.0	99.3	83.5	118	1.13	10
Xylenes, Total	59.14	µg/L	2.0	98.1	83.4	122	0.764	13

Sample ID: 0709406-20A MSD *MSD* Batch ID: R25420 Analysis Date: 10/3/2007 8:05:57 PM

Benzene	20.94	µg/L	1.0	102	85.9	113	1.15	27
Toluene	19.97	µg/L	1.0	98.4	86.4	113	1.23	19
Ethylbenzene	19.95	µg/L	1.0	99.2	83.5	118	2.10	10
Xylenes, Total	58.87	µg/L	2.0	96.8	83.4	122	1.12	13

Sample ID: 5ML RB *MBLK* Batch ID: R25409 Analysis Date: 10/2/2007 8:14:55 AM

Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	2.0					

Sample ID: 5ML RB *MBLK* Batch ID: R25420 Analysis Date: 10/3/2007 9:00:15 AM

Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	2.0					

Sample ID: 100NG BTEX LCS *LCS* Batch ID: R25409 Analysis Date: 10/2/2007 8:15:26 PM

Benzene	20.25	µg/L	1.0	101	85.9	113		
Toluene	19.54	µg/L	1.0	97.3	86.4	113		
Ethylbenzene	19.60	µg/L	1.0	97.4	83.5	118		
Xylenes, Total	58.14	µg/L	2.0	96.2	83.4	122		

Sample ID: 100NG BTEX LCS *LCS* Batch ID: R25420 Analysis Date: 10/3/2007 11:00:56 AM

Benzene	20.65	µg/L	1.0	103	85.9	113		
Toluene	20.04	µg/L	1.0	99.8	86.4	113		
Ethylbenzene	20.04	µg/L	1.0	99.6	83.5	118		
Xylenes, Total	60.00	µg/L	2.0	99.5	83.4	122		

Sample ID: 0709406-01A MS *MS* Batch ID: R25409 Analysis Date: 10/3/2007 3:15:09 AM

Benzene	21.10	µg/L	1.0	105	85.9	113		
Toluene	19.82	µg/L	1.0	98.8	86.4	113		
Ethylbenzene	19.73	µg/L	1.0	98.2	83.5	118		
Xylenes, Total	58.69	µg/L	2.0	97.4	83.4	122		

Sample ID: 0709406-20A MS *MS* Batch ID: R25420 Analysis Date: 10/3/2007 7:35:52 PM

Benzene	20.70	µg/L	1.0	101	85.9	113		
Toluene	19.73	µg/L	1.0	97.2	86.4	113		
Ethylbenzene	19.53	µg/L	1.0	97.1	83.5	118		
Xylenes, Total	58.22	µg/L	2.0	95.7	83.4	122		

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: XTO Energy  
 Project: Ground Water

Work Order: 0709406

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: E160.1

Sample ID: 0709406-08B MSD		MSD			Batch ID: 13963	Analysis Date: 10/1/2007			
Total Dissolved Solids	3202	mg/L	20	104	80	120	0.627	20	
Sample ID: MB-13963		MBLK			Batch ID: 13963	Analysis Date: 10/1/2007			
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-13963		LCS			Batch ID: 13963	Analysis Date: 10/1/2007			
Total Dissolved Solids	1001	mg/L	20	100	80	120			
Sample ID: 0709406-08B MS		MS			Batch ID: 13963	Analysis Date: 10/1/2007			
Total Dissolved Solids	3182	mg/L	20	102	80	120			

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 02-Jan-08

CLIENT: XTO Energy  
Project: Ground Water

Lab Order: 0712350

Lab ID: 0712350-01

Collection Date: 12/20/2007 12:15:00 PM

Client Sample ID: ~~Valdez AIE MW-6~~

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: NSB
EPA METHOD 8021B: VOLATILES						
Benzene	2.9	1.0		µg/L	1	12/27/2007 1:46:19 PM
Toluene	ND	1.0		µg/L	1	12/27/2007 1:46:19 PM
Ethylbenzene	130	10		µg/L	10	12/27/2007 1:16:09 PM
Xylenes, Total	750	20		µg/L	10	12/27/2007 1:16:09 PM
Surr: 4-Bromofluorobenzene	104	68.9-122		%REC	1	12/27/2007 1:46:19 PM

Lab ID: 0712350-02

Collection Date: 12/20/2007 12:38:00 PM

Client Sample ID: ~~Valdez AIE MW-7~~

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: NSB
EPA METHOD 8021B: VOLATILES						
Benzene	310	10		µg/L	10	12/29/2007 1:52:52 AM
Toluene	ND	1.0		µg/L	1	12/27/2007 3:16:33 PM
Ethylbenzene	220	10		µg/L	10	12/29/2007 1:52:52 AM
Xylenes, Total	1300	20		µg/L	10	12/29/2007 1:52:52 AM
Surr: 4-Bromofluorobenzene	97.0	68.9-122		%REC	10	12/29/2007 1:52:52 AM

Lab ID: 0712350-03

Collection Date: 12/20/2007 1:16:00 PM

Client Sample ID: Sullivan GCD1 MW-1

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: NSB
EPA METHOD 8021B: VOLATILES						
Benzene	ND	1.0		µg/L	1	12/27/2007 4:16:54 PM
Toluene	ND	1.0		µg/L	1	12/27/2007 4:16:54 PM
Ethylbenzene	ND	1.0		µg/L	1	12/27/2007 4:16:54 PM
Xylenes, Total	ND	2.0		µg/L	1	12/27/2007 4:16:54 PM
Surr: 4-Bromofluorobenzene	85.5	68.9-122		%REC	1	12/27/2007 4:16:54 PM

Lab ID: 0712350-04

Collection Date: 12/20/2007 2:54:00 PM

Client Sample ID: ~~Jack Frost B2 MW-4~~

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: NSB
EPA METHOD 8021B: VOLATILES						
Benzene	29	1.0		µg/L	1	12/27/2007 4:47:02 PM
Toluene	ND	1.0		µg/L	1	12/27/2007 4:47:02 PM
Ethylbenzene	4.4	1.0		µg/L	1	12/27/2007 4:47:02 PM
Xylenes, Total	ND	2.0		µg/L	1	12/27/2007 4:47:02 PM
Surr: 4-Bromofluorobenzene	92.6	68.9-122		%REC	1	12/27/2007 4:47:02 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

## QA/QC SUMMARY REPORT

Client: XTO Energy  
Project: Ground Water

Work Order: 0712350

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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## Method: EPA Method 8021B: Volatiles

Sample ID: 0712350-04A MSD MSD Batch ID: R26708 Analysis Date: 12/27/2007 8:50:30 PM

Benzene	48.54	µg/L	1.0	98.2	85.9	113	0.378	27	
Toluene	20.57	µg/L	1.0	103	86.4	113	0.543	19	
Ethylbenzene	24.72	µg/L	1.0	102	83.5	118	0.605	10	
Xylenes, Total	63.55	µg/L	2.0	102	83.4	122	0.317	13	

Sample ID: 5ML RB

MBLK

Batch ID: R26708 Analysis Date: 12/27/2007 9:07:53 AM

Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R26708 Analysis Date: 12/27/2007 9:20:40 PM

Benzene	22.03	µg/L	1.0	110	85.9	113			
Toluene	20.88	µg/L	1.0	104	86.4	113			
Ethylbenzene	20.97	µg/L	1.0	105	83.5	118			
Xylenes, Total	62.73	µg/L	2.0	105	83.4	122			

Sample ID: 0712350-04A MS

MS

Batch ID: R26708 Analysis Date: 12/27/2007 8:20:13 PM

Benzene	48.72	µg/L	1.0	99.1	85.9	113			
Toluene	20.69	µg/L	1.0	103	86.4	113			
Ethylbenzene	24.87	µg/L	1.0	102	83.5	118			
Xylenes, Total	63.75	µg/L	2.0	102	83.4	122			

## Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits